Kaushal Agarwal ⏻

Coding Area

05 Hr **56** Min
19 Sec

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Coding Area

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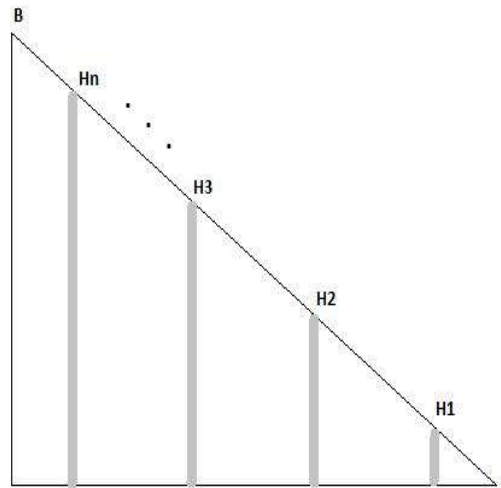| **A**	**B**	**C**	**D**	**E**	**F**

ONLINE EDITOR (A)

Holes And Balls

➕ Problem Description

A man is doing an experiment with the device that he built newly. The structure of the device is as below diagram.

B to E is a sloping surface with n holes, labelled H1, H2, ... Hn, on it. Holes are of different diameters and depths. The man is releasing m number of balls of different diameters from the point B one after the other. He needs to find the positions of each ball after the experiment.
The specialties of the device are:
1. A ball will fall into a hole, if its diameter is less than or equal to the diameter of the hole.
2. A hole Hi will become full, if i numbers of balls fall into it. For example hole labelled H3 will become full if 3 balls fall into it.
3. If a hole is full, then no more balls fall into it.
4. A ball will reach the bottom point E from B, if and only if it is not falling into any one of the holes.

Please help him in finding the eventual position of the balls. If a ball is in hole Pi, then take its position as i. If a ball reached the bottom point E, then take its position as 0.

➕ Constraints

0 < N <= 50

0 < Diameter of holes <= 10^9

0 < M <= 1000

0 < Diameter of balls <=10^9

╶╁╴ Input Format

Line 1: total number of holes, N
Line 2: N space separated integers denoting the diameters of N holes, from bottom to top
Line 3: total number of balls, M
Line 4: M space separated integers denoting the diameters of balls in the order of release.

╶╁╴ Output

Line 1: Positions of each ball in the order of ball release separated by space

╶╁╴ Test Case

╶╁╴ Explanation

Example 1

Input

3
21 3 6
11
20 15 5 7 10 4 2 1 3 6 8

Output

1 0 3 0 0 3 3 2 2 0 0

Explanation

3 holes are there labelled H1, H2, and H3 of diameters 21, 3, and 6 respectively. 11 balls are released from the point B in the order provided in the input i.e. { 20, 15, 5, 7 ..., 5}. Ball of diameter 20 will fall into the hole H1 and the hole H1 will become full. Balls 15, 7 and 10 will reach bottom since hole H1 is full and diameters of holes H2 and H3 are less than balls diameter. Balls 5, 4 , and 2 will fall into the hole H3. Ball 1 will fall into the hole H2 since the hole H3 is already full. Ball 3 will fall into hole H2. Balls 6, and 8 will reach at the bottom point E. The position of ball 20 is 1 because it is in hole H1. Positions of ball 15, 7, 10, 3, 6, and 8 are 0 because they reached bottom point E. Positions of 5, 4, and 2 are 3 because they are in hole H3. Position of Ball 1 and Ball 3 is 2.

Upload Solution [Question : A]

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